



NATIONAL LEADERSHIP GRANTS FOR LIBRARIES

Sample Application LG-260350-OLS-26
Project Category: National Implementation

Native BioData Consortium

Amount awarded by IMLS: \$299,876
Amount of cost share: \$0

The Native BioData Consortium in South Dakota will develop a training model to prepare Indigenous students and emerging information professionals to work with biomedical databases and research infrastructures, grounded in Indigenous data sovereignty and community governance principles. By integrating Indigenous leadership, biomedical data training, and open educational resources, the project will create a replicable model that supports Indigenous library and information professionals in engaging with biomedical data systems and advancing community-centered research. Primary beneficiaries include Indigenous students, earlycareer researchers, and emerging library and information professionals seeking to develop expertise in biomedical information and data stewardship. Tribal colleges and universities, Native-serving academic libraries, and research programs within Tribal nations will also directly benefit from the project.

Attached are the following components excerpted from the original application.

- Narrative
- Schedule of completion

When preparing an application for the next deadline, be sure to follow the instructions in the most recent Notice of Funding Opportunity for the grant program to which you are applying.

NARRATIVE

INTRODUCTION

As biomedical research increasingly relies on large-scale data and cloud-based platforms developed through federal investments such as those from the National Library of Medicine (NLM) and the National Center for Biotechnology Information (NCBI), expanding a trained library and information workforce has become a national priority to support equitable participation in research and maximize the value of publicly funded resources. This project, the Indigenous Biomedical Data Fellowship, responds directly to the need by building Indigenous capacity within the biomedical information workforce. Led by the Native BioData Consortium (NBDC), the world's first Indigenous-led genomic biorepository and data sovereignty center, and supported by Computercraft Corporation, a Native American, woman-owned small business as the project's technical and curriculum partner, the initiative will establish a training model with the goal of preparing Indigenous students and emerging information professionals to engage with biomedical databases and related research infrastructures while grounding that training in Indigenous data sovereignty and community governance principles. By combining Indigenous leadership, biomedical data training, and open educational resources, the project will establish the first nationally replicable training model designed to prepare Indigenous library and information professionals to engage with biomedical data infrastructure and support community-centered research. NBDC requests approximately \$299,876 in IMLS funds. The result of this funding will be the training of 22 Indigenous fellows over two years, including 10 fellows in Year 1 and 12 fellows in Year 2, and sharing the open-source curriculum developed to support others nationally to gain practical skills in navigating biomedical information resources and applying them in Indigenous research contexts.

PROJECT JUSTIFICATION

The Need, Challenge, or Opportunity and How It Was Identified

The National Library of Medicine and its associated information systems, including the National Center for Biotechnology Information, represent one of the most significant publicly funded biomedical knowledge infrastructures in the world. Resources such as PubMed, GenBank, ClinVar, and ClinicalTrials.gov enable researchers, clinicians, educators, and public health practitioners to access and analyze vast quantities of biomedical information. In recent years, additional federal initiatives and cloud-based research platforms have further expanded opportunities for researchers to engage with large-scale biomedical datasets. Collectively, these systems represent an unprecedented opportunity to democratize access to biomedical knowledge and accelerate discovery.

Despite the public availability of these systems, Indigenous researchers and Tribal-serving institutions remain significantly underrepresented in biomedical research participation and data infrastructures, limiting engagement with national biomedical information resources and data-driven research environments (Hudson et al., 2020; Anderson et al., 2025). Tribal colleges and universities, Native-serving academic libraries, and research programs within Tribal nations often lack structured training pathways that enable students, librarians, and early-career researchers to develop the technical, informational, and governance competencies required to effectively access and use biomedical data resources.

This gap is not due to lack of interest or relevance. Indigenous communities are increasingly engaged in research addressing public health disparities, environmental health, genomics, and community-based data initiatives. However, many Tribal-serving institutions face structural barriers, including limited access to advanced biomedical data training, insufficient exposure to cloud-based research environments, and limited institutional capacity to support technical training in biomedical informatics.

The Native BioData Consortium (NBDC), the lead applicant for this project, has identified this need through years of direct engagement with Indigenous researchers, Tribal leaders, students, and community organizations. Founded in 2018 on the Cheyenne River Sioux Reservation, NBDC is the world's first Indigenous-led genomic biorepository and data sovereignty center and a nationally recognized leader in advancing Indigenous data governance, education, and workforce development. Through its research, educational programming, and partnerships with Tribal nations, NBDC has consistently encountered demand for training opportunities that enable Indigenous students and researchers to develop expertise in biomedical information systems while aligning that training with Indigenous data sovereignty principles and emerging frameworks such as the CARE Principles for Indigenous Data Governance (Carroll et al., 2020).

At the same time, libraries remain critical access points for biomedical knowledge and data resources. Librarians and information professionals play an essential role in helping researchers discover, interpret, and responsibly use biomedical information. Strengthening Indigenous participation in biomedical information ecosystems therefore requires investment not only in research training, but also in the development of Indigenous biomedical information professionals who can support research capacity within Tribal nations and Native-serving institutions.

In response to this opportunity, NBDC proposes to launch the Indigenous Biomedical Data Fellowship, a national capacity-building initiative designed to train Indigenous students and emerging information professionals to effectively navigate and apply NLM resources, NCBI platforms, and related biomedical data systems. Computercraft Corporation will serve as the project's technical and curriculum partner, supporting curriculum development, training delivery, and partnerships with federal biomedical data programs.

How This Project Differs From, Complements, Builds Upon, or Adapts Existing Models, Standards, Theories, Scholarship, or Practice

The proposed project builds upon existing efforts to expand data literacy and biomedical research capacity within library and academic communities while addressing a critical gap: the absence of structured training programs designed specifically to prepare Indigenous researchers and information professionals to engage with national biomedical information infrastructure.

Recent initiatives within academic libraries have demonstrated the importance of training librarians and research support professionals to work with biomedical datasets, cloud-based research environments, and emerging data science tools. These programs highlight the evolving role of libraries as hubs for data-driven research and emphasize the growing need for professionals who can help researchers navigate complex biomedical information ecosystems.

The Indigenous Biomedical Data Fellowship complements these efforts while introducing several innovations.

First, the program is Indigenous-led and grounded in Indigenous data sovereignty principles. While many existing biomedical data training programs focus primarily on technical skill development, this initiative integrates technical competencies with frameworks such as the CARE Principles for Indigenous Data Governance. This ensures that participants develop not only the ability to access and analyze biomedical data resources but also the knowledge required to steward data responsibly in ways that respect Tribal sovereignty, community governance, and cultural values.

Second, the program expands biomedical library and data training into contexts that have historically had limited access to such opportunities. Rather than focusing exclusively on large research universities, the Fellowship is designed to support Indigenous students, Tribal college communities, and Native-serving institutions. This approach helps bridge the gap between national biomedical information infrastructure and communities that have historically been excluded from or underserved by existing training programs.

Third, the Fellowship integrates training across multiple components of the biomedical information ecosystem. Participants will develop expertise in navigating core NLM and NCBI resources while also gaining exposure to biomedical datasets and emerging research platforms that support large-scale data analysis. By focusing on foundational biomedical information systems while introducing participants to broader data environments, the program prepares fellows to work across a diverse and evolving research landscape.

Finally, the project is designed explicitly as a replicable national model. Curriculum modules, instructional materials, and implementation guides developed through this initiative will be openly shared to support adoption by Tribal colleges, Native-serving academic libraries, and other institutions interested in expanding biomedical data literacy and research support capacity. Computercraft's experience developing technical training programs and NBDC's national network of Indigenous research partners together provide the foundation for a scalable and sustainable training model.

Who Will Benefit from the Project and Its Results

The primary beneficiaries of this project will be **Indigenous students, early-career researchers, and emerging library and information professionals** who seek to develop expertise in biomedical information systems and data stewardship. Through the Indigenous Biomedical Data Fellowship, participants will gain practical training in navigating NLM resources, biomedical databases, and related research platforms while developing the technical and governance skills necessary to support responsible data use within Indigenous research contexts.

Tribal colleges and universities, Native-serving academic libraries, and research programs within Tribal nations will also benefit directly from the project. Many of these institutions are actively expanding their research capacity but face challenges in recruiting professionals with training in biomedical information systems and data analysis. Fellowship participants will be equipped to serve as biomedical information intermediaries, research support specialists, and educators within these institutions, strengthening local research ecosystems and improving access to biomedical knowledge.

Libraries across the United States will benefit from the development of a replicable model for building biomedical data literacy and research support capacity in underserved communities. The open curriculum and training materials developed through this project will provide a practical framework that can be adapted by Tribal colleges, minority-serving institutions, rural libraries, and community-based research programs.

At the national level, **federal biomedical information systems and the National Library of Medicine** will benefit from expanded and more equitable participation in publicly funded research infrastructure. By training 10 Indigenous fellows in Year 1 and 12 fellows in Year 2, the project increases the number of researchers and information professionals equipped to effectively use NLM resources and related biomedical data platforms. These intentionally small cohort sizes allow for intensive mentorship, hands-on training, and culturally grounded instruction, ensuring that participants develop both technical competencies and the contextual knowledge required to responsibly steward biomedical data within Indigenous research contexts.

Indigenous communities, Tribal nations, and Native-serving institutions benefit directly from the development of a sustainable pathway for Indigenous participation in biomedical information ecosystems. Through NBDC's leadership and Computercraft's technical partnership, the project will prepare fellows to serve as biomedical information intermediaries who can help their communities access, interpret, and govern biomedical data resources. In doing so, the initiative strengthens local research capacity while ensuring that Indigenous communities are not only represented in biomedical research but also empowered as knowledge creators and data stewards.

Libraries, educators, and research support professionals nationwide will benefit from the project's openly shared curriculum and training resources. By developing a modular curriculum, implementation toolkit, and train-the-trainer guidance, the project will provide a replicable model that Tribal colleges, Native-serving academic libraries, and other institutions can adopt or adapt. To measure the reach of these resources, the project will track metrics such as repository downloads, page views, toolkit requests, and institutional inquiries, providing evidence of how widely the materials are accessed and used after publication. Through these resources, the **initiative advances the Institute of Museum and Library Services' goal of strengthening the national library workforce** while helping ensure that federally funded biomedical information systems are accessible to a broader and more diverse set of users.

PROJECT WORK PLAN

Specific Activities and Their Sequence and How They Will Lead to the Promised Results

The Indigenous Biomedical Data Fellowship will be implemented as a two-year national capacity-building initiative designed to train Indigenous students and emerging information professionals to effectively use biomedical information systems and data resources available through the National Library of Medicine (NLM) and related platforms. The project will proceed through a phased implementation strategy that allows the program to be piloted, refined, and expanded to achieve national impact. This project aligns with the **NLG-L program goal of strengthening the national library workforce, and it specifically advances the objective of expanding professional capacity to support data-driven research and digital information services.**

Phase 1: Program Development and Pilot Implementation (Year 1)

During the first year, the Native BioData Consortium (NBDC) will establish the program's governance structure, finalize curriculum development, and conduct the initial pilot cohort of fellows. NBDC will convene a Project Advisory Board composed of Indigenous researchers, Tribal educators, library professionals, and data governance experts to guide the development of the Fellowship curriculum and ensure that it aligns with Indigenous data sovereignty principles and community needs.

Computercraft will serve as the technical and curriculum development partner, leading the design of instructional modules focused on biomedical information systems, NLM and NCBI resource navigation, biomedical data literacy, and introductory coding and data science workflows. Together, NBDC and Computercraft will design a curriculum that integrates:

- Foundations of biomedical data literacy
- Advanced use of NLM and NCBI resources such as PubMed, GenBank, ClinVar, and ClinicalTrials.gov
- Exposure to biomedical datasets and emerging research platforms, including cloud-based analysis environments
- Coding and data science fundamentals
- Indigenous data governance principles and the CARE framework

The first Fellowship cohort will include 10 Indigenous students or early-career researchers selected through a national recruitment process. Fellows will participate in an intensive six-week summer training program combining classroom instruction, hands-on exercises using biomedical data resources, and mentorship from project faculty and advisors.

Each fellow will complete a capstone project that applies the knowledge and skills gained during the Fellowship to a research question or community health issue relevant to Indigenous communities. These projects will demonstrate the practical use of biomedical information resources and will serve as evidence of participant learning outcomes.

Phase 2: Program Expansion and Dissemination (Year 2)

In the second year of the project, the Fellowship will expand to a larger cohort of participants, with an anticipated enrollment of 12 fellows. Curriculum and program design will be refined based on lessons learned from the pilot cohort and feedback from participants and advisory board members.

During this phase, the project team will also develop an open-source curriculum based on this training to share openly via NBDC's website. These materials could be used in a future train-the-trainer dissemination project focusing on training library professionals, faculty members, and educators at Tribal colleges and Native-serving institutions to adopt and adapt elements of the Fellowship curriculum within their own institutions.

To support broader dissemination, NBDC and Computercraft will develop an openly accessible curriculum toolkit that includes:

- Curriculum modules and syllabi comprising a modular biomedical data literacy curriculum designed for Indigenous students and library professionals
- Instructional materials and datasets (focused on navigating NLM and NCBI resources)
- Implementation guidance for institutions interested in replicating the model
- Capstone project templates, examples, and evaluation tools

The project team will also host webinars, workshops, and conference presentations to introduce the Fellowship model to national library and research communities.

The project will also establish an Indigenous Biomedical Data Fellows Network to provide ongoing mentorship, collaboration opportunities, and professional development support for Fellowship alumni. This network will help sustain engagement with biomedical data resources beyond the formal training period and contribute to long-term workforce development within Indigenous research and library communities.

Together, these phased activities will lead to the project's promised outcomes: increased Indigenous participation in biomedical information ecosystems, expanded research support capacity within Tribal-serving institutions, and the creation of a replicable national training model for biomedical data literacy.

How We Have Involved Stakeholders in Planning and Development and Incorporated Their Input

Stakeholder engagement has been central to the development of the Indigenous Biomedical Data Fellowship. The project emerged from ongoing discussions among Indigenous researchers, Tribal leaders, and educators who have emphasized the need for culturally grounded training programs that connect Indigenous communities to national biomedical information infrastructure.

NBDC has extensive experience convening Indigenous stakeholders around issues of data governance, research capacity building, and biomedical data stewardship. Since its founding in 2018, the organization has developed partnerships with Tribal nations, Indigenous research networks, and educational institutions while advancing training initiatives related to Indigenous data sovereignty and biomedical research capacity. These engagements have consistently highlighted the need for educational opportunities that equip Indigenous students and professionals with the technical skills required to navigate biomedical information systems.

In developing this proposal, NBDC consulted with Tribal educators, Indigenous data governance leaders, and representatives from Native-serving academic institutions to identify the core competencies that a biomedical data training program should address. Stakeholders emphasized the importance of integrating technical training with Indigenous governance frameworks and ensuring that the curriculum reflects both scientific rigor and cultural relevance.

Computercraft contributed to the planning process by providing expertise in biomedical informatics training and workforce development. Through its experience supporting federal biomedical data programs and developing technical training initiatives, Computercraft helped design curriculum components that align with current biomedical research infrastructure and data science practices. In 2025, Computercraft piloted an early version of this training model through a Biomedical Data Science Internship program that provided Indigenous undergraduate and graduate students with hands-on experience in biomedical data analysis, including introductory training in R and Python and guided exploration of NCBI resources and other federal biomedical data platforms. This pilot provided a practical foundation for the proposed Fellowship and demonstrated the viability of delivering immersive biomedical data training to Indigenous students in a cohort-based learning environment.

The pilot program demonstrated both strong interest and clear need for structured pathways connecting Indigenous students to biomedical data careers. Interns completed mentored capstone projects and participated in career talks, networking events, and interactions with biomedical researchers and program staff, providing insight into the technical and professional experiences most beneficial to participants. Lessons from this pilot—including the importance of hands-on training, mentorship from Indigenous and biomedical data experts, and opportunities for students to apply their skills through capstone projects—directly informed the design of the proposed Fellowship curriculum and program structure. By building on the successes and lessons learned from this initial internship program, the project team has developed a refined model that integrates experiential learning, mentorship, and biomedical information resources within a framework that can be scaled and replicated through libraries and Native-serving institutions.

The project will continue to incorporate stakeholder input throughout the implementation period through an advisory board and participant feedback mechanisms. These structures will ensure that the program remains responsive to community needs and evolving developments in biomedical data systems.

How We Will Evaluate and Demonstrate Impact

Evaluation of the Indigenous Biomedical Data Fellowship will focus on measuring outcomes at three levels: individual participants, external institutions, and the broader national research ecosystem. The evaluation strategy will use a mixed-methods approach that combines quantitative metrics with qualitative insights to assess both program effectiveness and long-term impact.

At the individual level, evaluation will measure changes in participant knowledge, technical skills, and confidence in using biomedical information systems. Fellows will complete pre- and post-program assessments evaluating their familiarity with NLM resources, biomedical databases, and data analysis tools. Participants will also be evaluated based on completion and quality of their capstone projects, which demonstrate their ability to apply biomedical data resources to real-world research questions.

At the institutional level, the evaluation will examine whether the Fellowship contributes to increased engagement with biomedical information systems among external organizations. Indicators will include adoption of curriculum materials, as measured by downloads and correspondence with interested organizations.

At the national level, the evaluation will assess the program's broader influence on workforce development and knowledge dissemination. Metrics will include the number of fellows trained, the number of institutions adopting elements of the curriculum, and the reach of open-access training materials developed through the project.

Evaluation will be conducted internally by the project leadership team using established assessment instruments and participant feedback mechanisms, like SurveyMonkey. Findings from the evaluation will inform ongoing improvements to the program and will be disseminated through conference presentations, publications, and the project's open curriculum toolkit. The improvements from each year will be documented and incorporated in the next year's work plan to ensure the improvements are executed and achieved.

Who Will Plan, Implement, and Manage the Project

The Indigenous Biomedical Data Fellowship will be led by the **Native BioData Consortium (NBDC)**, which will serve as the project's lead applicant and primary implementing organization. NBDC is an Indigenous-led nonprofit dedicated to strengthening Tribal sovereignty through education, research, and stewardship of Indigenous data systems. The organization has extensive experience developing educational programs, convening Indigenous research networks, and advancing responsible data governance initiatives across Tribal communities. NBDC will provide overall project leadership, including program oversight, partnership development, participant recruitment, and engagement with Tribal nations and Native-serving institutions.

Joseph M. Yracheta, Executive Director of the Native BioData Consortium, will serve as **Project Director and Principal Investigator for the Consortium**. Mr. Yracheta is a nationally recognized leader in Indigenous data sovereignty and genomics research and directs the Native BioData Consortium biorepository and associated research programs. His work focuses on building Indigenous research infrastructure and ethical frameworks for genomic and biomedical data use in Tribal communities, and he has extensive experience developing education initiatives and partnerships that support Indigenous participation in biomedical science and data governance.

Computercraft Corporation will serve as the project's technical and curriculum development partner. Computercraft brings decades of experience supporting federal biomedical data infrastructure and training programs, including work with the National Library of Medicine and related biomedical information systems that has involved outreach, engagement, and various forms of training (e.g., codeathons, workshops). Computercraft will lead curriculum design, instructional development, and delivery of technical training modules related to biomedical data resources, coding, and research workflows.

The Computercraft component of the project will be led by **Michelle Holko, Ph.D., PMP**, who will serve as Principal Investigator for Computercraft. Dr. Holko is a genomics and biomedical data expert with extensive experience leading large-scale biomedical data initiatives across government, academia, and the private sector. Her previous work includes leadership roles with the NIH All of Us Research Program, the White House Presidential Innovation Fellows program, and multiple federal health and biosecurity initiatives. She brings deep expertise in biomedical data systems, digital research infrastructure, and workforce training related to emerging biomedical technologies.

Alexa Salsbury, Ph.D., Data Science Outreach Lead at Computercraft, will support curriculum development and technical instruction. Dr. Salsbury has extensive experience designing and delivering training programs on bioinformatics, cloud computing, and biomedical data analysis. Her work includes leading data science outreach initiatives connected to NCBI and developing workshops and educational materials that help researchers and students engage with large-scale biomedical datasets and computational tools.

Day-to-day program operations will be coordinated by **Kali J. Dale, Ph.D.**, Director of Research, Logistics, Analytics, and Implementation at NBDC, who will serve as Project Coordinator. Dr. Dale brings strong experience managing multi-site research collaborations and Indigenous research infrastructure initiatives, including coordination of the NIH RADx Tribal Data Repository consortium. She will oversee program logistics, participant coordination, reporting, and implementation support for Fellowship activities.

The project will also engage an Advisory Board, including **Krystal Tsosie, Ph.D.**, along with other Indigenous researchers, library professionals, and data governance experts. Advisory board members will also help connect the Fellowship to broader national networks of Indigenous researchers, Tribal colleges, and library professionals, ensuring that the project's curriculum and training model are informed by diverse perspectives and positioned for adoption by institutions across the United States. Advisory members will offer input on curriculum development, help ensure cultural and community relevance, and support dissemination of project outcomes across Indigenous research and library networks.

Together, this collaborative structure ensures that the project integrates **Indigenous leadership, biomedical data expertise, and national library workforce development experience**, enabling effective implementation of the Fellowship while establishing a model that can be adopted and adapted by other institutions serving Indigenous communities.

PROJECT RESULTS

Intended Project Results and Deliverables

The Indigenous Biomedical Data Fellowship will produce both direct workforce development outcomes and openly shared resources that support long-term capacity building within Indigenous communities and the national library field. Over the two-year project period, the Fellowship will train Indigenous students and emerging information professionals to effectively navigate biomedical information systems and apply biomedical data resources to community-relevant research questions.

The program will support two cohorts of fellows:

Year 1: 8-10 fellows

Year 2: 10-12 fellows

Across the project period, this will result in approximately 18-22 trained fellows with foundational skills in biomedical data literacy, information discovery, and research support.

Each fellow will complete a mentored capstone project that applies biomedical information resources—featuring NLM and NCBI platforms and other biomedical datasets—to a research question relevant to Indigenous health, public health, or biomedical research. These projects will serve as practical demonstrations of how biomedical information resources can support community-driven research and knowledge development.

In addition to workforce training outcomes, the project will produce a suite of openly accessible educational resources and implementation tools, as described in more detail in the Digital Products Plan, including:

- Curriculum modules and syllabi comprising a modular biomedical data literacy curriculum designed for Indigenous students and library professionals
- Instructional materials and datasets (focused on navigating NLM and NCBI resources)
- Implementation guidance for institutions interested in replicating the model
- Capstone project templates, examples and evaluation tools

The project will also establish an Indigenous Biomedical Data Fellows Network to support ongoing collaboration, mentorship, and professional engagement with biomedical data resources beyond the formal training period.

Measurable outcomes: Project success will be evaluated through a set of measurable outcomes related to training participation, skill development, and use of the toolkit by third-party organizations nationally. These outcomes build on evaluation approaches used in Computercraft’s pilot internship program, which included pre- and post-program participant surveys to assess changes in knowledge, confidence, and technical skills.

Evaluation Category	Impact Level	Performance Indicator	Measurement Method	Target Outcome
Effectiveness	Individual	Indigenous fellows trained through the program	Program participation records and cohort enrollment documentation	22 fellows trained (10 in Year 1, 12 in Year 2)
Effectiveness	Individual	Completion of capstone projects demonstrating use of biomedical information resources	Review of capstone submissions and mentor verification	100% of fellows complete capstone projects

Effectiveness	Individual	Increased knowledge of biomedical information systems and biomedical data literacy concepts	Pre- and post-program surveys comparing baseline and post-training responses	Majority of fellows demonstrate measurable improvement
Effectiveness	Individual	Increased confidence in accessing and using NLM and NCBI resources	Post-program participant surveys and qualitative feedback	Majority of fellows report increased confidence
Effectiveness	National	Use of open-access curriculum and toolkit	Repository analytics including downloads, page views, and toolkit requests	≥100 downloads or accesses within one year
Quality	Individual	Quality of fellow capstone projects	Mentor evaluation using standardized rubric	Capstone projects demonstrate effective use of biomedical data resources
Efficiency	Program	Cost efficiency of fellowship model	Comparison of total program expenditures with number of fellows trained	Annual calculation of cost per fellow trained
Timeliness	Program	Completion of project activities and curriculum development milestones	Comparison of Schedule of Completion with project management records	Activities completed according to proposed timeline

Evaluation findings will be reviewed annually by project leadership and used to refine the curriculum, improve program implementation, and guide dissemination of the Fellowship model to additional institutions.

How Project Results Will Address the Need, Challenge, or Opportunity

The project results directly address the need for expanded Indigenous capacity to access and use national biomedical information infrastructure. While NLM and other federal biomedical data systems provide publicly accessible resources, effective use of these platforms requires specialized knowledge in information discovery, data interpretation, and research workflows.

By training Indigenous students and emerging information professionals to navigate biomedical information systems and datasets, the Fellowship will expand the number of individuals who can serve as intermediaries between biomedical data ecosystems and their communities. Participants will gain both technical competencies and contextual understanding that enable them to apply biomedical information resources in ways that align with Indigenous governance frameworks and community priorities.

The capstone projects produced by fellows will demonstrate how biomedical information resources can be applied to issues relevant to Indigenous health and research. These projects will help illustrate the practical value of biomedical data infrastructure for community-driven research and knowledge generation.

At the institutional level, the project will strengthen the ability of Tribal colleges, Native-serving academic libraries, and Indigenous research organizations to engage with biomedical information systems. The training model and curriculum resources developed through the project will support broader participation in the biomedical information ecosystem.

How We Will Ensure Deliverables Are Readily Adaptable, Generalizable, and Usable by Other Institutions and Communities

A central goal of this project is to develop a training model that can be adopted and adapted by institutions beyond the initial Fellowship program. To ensure national scalability, the project will develop an openly available, modular curriculum and implementation toolkit accompanied by a train-the-trainer model that enables Tribal colleges, Native-

serving institutions, and libraries across the United States to adopt and adapt the Fellowship framework within their own communities.

Training materials will be structured as independent instructional modules that can be implemented in a variety of formats, including semester-long courses, short workshop series, summer training programs, or library-led training initiatives. This modular structure will allow institutions with different resources and program structures to incorporate elements of the curriculum without needing to replicate the full Fellowship model.

All instructional materials will be accompanied by implementation guides and facilitator documentation, including lesson plans, suggested exercises, and sample datasets. These resources will support library professionals, educators, and program coordinators who wish to implement or adapt the curriculum locally.

How We Will Disseminate Deliverables to Reach the Intended Beneficiaries

The project's dissemination strategy is designed to ensure that the Fellowship model and associated resources reach Indigenous communities, libraries, and educational institutions that can most benefit from them.

All curriculum materials, implementation guides, and evaluation tools developed through the project will be made publicly available through an open-access digital repository maintained by NBDC. These materials will be released under open licensing to allow reuse and adaptation. The repository will include clear documentation, structured metadata, and version control practices to support long-term access and usability.

The project team will also conduct targeted outreach to Tribal colleges, Native-serving academic libraries, and Indigenous research organizations through webinars, workshops, and informational sessions introducing the curriculum and Fellowship model.

In addition, the project team will share outcomes with the broader library and research communities through conference presentations, publications, and professional networks related to library science, biomedical informatics, and Indigenous research.

The Indigenous Biomedical Data Fellows Network will also serve as an important dissemination channel. Fellowship alumni will share their experiences and capstone projects through presentations, webinars, and community engagement activities, helping to broaden awareness of biomedical data resources and the opportunities they present for Indigenous research communities.

How We Will Sustain the Benefits of the Project

The project is designed to generate lasting benefits that extend beyond the grant period through a combination of open educational resources, institutional partnerships, and ongoing professional networks.

First, the curriculum and implementation toolkit developed through the project will remain publicly available and maintained by NBDC, ensuring that institutions can continue to access and use the materials after the grant period ends.

Second, the Indigenous Biomedical Data Fellows Network will provide an ongoing community of practice for program alumni, supporting collaboration, mentorship, and continued engagement with biomedical data resources.

Third, we will track use of the training materials nationally, enabling the Fellowship model to continue expanding after the grant period.

Finally, NBDC and Computercraft will pursue additional partnerships and funding opportunities to continue supporting and scaling the program beyond this two-year effort. These efforts will help ensure that the Fellowship evolves into a sustained initiative that continues to strengthen Indigenous participation in biomedical information ecosystems.

CONCLUSION

Public investments in biomedical information infrastructure—particularly through the National Library of Medicine and its associated data resources—have transformed the landscape of scientific discovery and public access to knowledge. Yet the promise of these systems can only be fully realized when diverse communities have the training, capacity, and institutional support needed to engage with them meaningfully. The Indigenous Biomedical Data Fellowship addresses

this challenge by building a pathway for Indigenous students, librarians, and emerging research professionals to develop expertise in biomedical information systems while grounding that training in Indigenous data governance and community priorities.

Led by the Native BioData Consortium and supported by Computercraft's expertise in biomedical data infrastructure and workforce training, this project will create a sustainable model for expanding participation in the biomedical information ecosystem. By training new cohorts of Indigenous biomedical information professionals, developing openly shared curriculum resources, and establishing a national network of fellows, the project will strengthen the capacity of Tribal nations and Native-serving institutions to access, interpret, and responsibly steward biomedical knowledge.

At a time when biomedical data is rapidly expanding and shaping the future of health research, ensuring equitable access to these systems is both a national priority and a matter of justice. Through this initiative, NBDC and Computercraft will help ensure that Indigenous communities are not only participants in the biomedical data landscape, but leaders in shaping how these resources are used to advance community health, scientific innovation, and responsible data stewardship for generations to come.

By building Indigenous capacity to access and apply biomedical information resources, this project advances the Institute of Museum and Library Services' mission to strengthen the nation's libraries and the communities they serve. The Indigenous Biomedical Data Fellowship will not only train new leaders in biomedical information science but also create a replicable model that libraries and educational institutions across the country can adopt. Through Indigenous leadership, national collaboration, and open educational resources, the project ensures that the benefits of publicly funded biomedical knowledge systems are shared more equitably. In doing so, it helps shape a future in which Indigenous researchers and information professionals are fully empowered to contribute to—and lead within—the evolving biomedical data landscape.

REFERENCES

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Project timeline: September 2026 – August 2028 (Q1–Q8 represent sequential project quarters)

Activity / Phase	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Phase 1 – Program Development & Setup								
Curriculum Development								
Logistics & Program Infrastructure								
Recruitment & Fellow Selection (Year 1)								
Phase 2 – Fellowship Cohort Year 1								
Year 1 Cohort Training & Capstone Projects								
Year 1 Evaluation & Curriculum Refinement								
Phase 3 – Fellowship Cohort Year 2								
Recruitment & Fellow Selection (Year 2)								
Year 2 Cohort Training & Capstone Projects								
Year 2 Evaluation								
Phase 4 – National Dissemination & Scaling								
Curriculum Toolkit Development								
Train-the-Trainer Pilot								
Partner Network Engagement								
Conferences, Webinars, & Outreach								